Claims

What is claimed:

1. A method of wirelessly transmitting and re-transmitting sub-protocol data units between a transceiver and a subscriber unit, the method comprising:

    the transceiver receiving standard data units and forming sub-protocol data units,

    the transceiver transmitting a plurality of sub-protocol data units to the subscriber unit, a subset of the plurality of sub-protocol data units comprising an acknowledge request indicator;

    the subscriber unit receiving the sub-protocol data units;

    the subscriber unit transmitting back to the transceiver a response to the acknowledge request indicator, indicating which sub-protocol data units were successfully received by the subscriber unit.

2. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, further comprising:

    the transceiver buffering the sub-protocol data units within transceiver buffers.

3. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 2, wherein the transceiver transmits a sub-protocol data unit comprising the acknowledge request indicator when a last sub-protocol data unit within the transceiver buffers to be transmitted is reached.

4. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 2, wherein the transceiver transmits a sub-protocol data unit comprising the acknowledge request indicator when a predetermined number of sub-protocol data units have been transmitted since a previous sub-protocol data unit that comprised a previous acknowledge request indicator was transmitted.

5. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, wherein a frequency in which sub-protocol data units comprising the acknowledge request indicator are transmitted is dependent upon a quality of wireless transmission link between the transceiver and the subscriber unit.

6. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, wherein how frequently sub-protocol data units comprising the acknowledge request indicator are transmitted is dependent upon a predetermined time duration since the transmitter received a response to an acknowledge request indicator.

7. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, wherein every transmitted sub-protocol data unit comprises an acknowledge request indicator after a predetermined time duration since the transmitter received a response to an acknowledge request indicator.

8. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, wherein the response to the acknowledge request includes a bit map that comprises

information about which sub-protocol data units have been successfully received by the subscriber.

9. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, wherein the response to the acknowledge request includes a hole indicator that indicates which sub-protocol data units of a receiver window that includes a predetermined number of sub-protocol data units were not successfully received by the subscriber unit.

10. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, further comprising:

the transceiver re-transmitting the sub-protocol data units that were not successfully received by the subscriber unit.

11. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 10, wherein the re-transmitted sub-protocol data unit are provided with a different transmission priority than sub-protocol data unit that have not yet been transmitted.

12. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 10, wherein the re-transmitted sub-protocol data unit are provided with a different transmission mode than sub-protocol data units that have not yet been transmitted.

13. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 10, wherein the transmitted and re-transmitted sub-protocol data units are transmitted over a

multiple channel transmission system, and the re-transmitted sub-protocol data units are transmitted over a higher quality channel than a channel in which the sub-protocol data units were initially transmitted.

14. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 2, wherein the transceiver aborts a transceiver buffer of sub-protocol data units if a response to an acknowledge request is not received after a given period of time.

15. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 2, wherein the transceiver clears a present transceiver buffer when the response to the acknowledge request has been received, and all sub-protocol data units have been successfully received by the subscriber unit.

16. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, wherein the subscriber unit comprises a subscriber buffer in which received sub-protocol data units are buffered.

17. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 16, further comprising:

the subscriber unit aborting the subscriber buffer of received sub-protocol data units if sub-protocol data units with errors are not correctly retransmitted after a given period of time.

18. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 1, wherein the subscriber unit transmits a pseudo response to an acknowledgement indicator if the subscriber fails to receive re-transmitted sub-protocol data units after a predetermined amount of time.

19. A method of wirelessly transmitting and re-transmitting sub-protocol data units from a transceiver, the method comprising:

the transceiver receiving standard data units and forming sub-protocol data units,

the transceiver transmitting a plurality of sub-protocol data units to a subscriber unit, a subset of the plurality of sub-protocol data units comprising an acknowledge request indicator;

the transceiver receiving a response to at least one acknowledge request indicator, each response including an indication of which sub-protocol data units were successfully received by the subscriber unit; and

the transceiver re-transmitting the sub-protocol data units that were not successfully received by the subscriber unit.

20. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 19, further comprising:

the transceiver buffering the sub-protocol data units within transceiver buffers.

21. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 20, wherein the transceiver transmits a sub-protocol data unit comprising the acknowledge

request indicator when a last sub-protocol data unit within the transceiver buffers to be transmitted is reached.

22. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 20, wherein the transceiver transmits a sub-protocol data unit comprising the acknowledge request indicator when a predetermined number of sub-protocol data units have been transmitted since a previous sub-protocol data unit that comprised a previous acknowledge request indicator was transmitted.

23. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 19, wherein a frequency in which sub-protocol data units comprising the acknowledge request indicator are transmitted is dependent upon a quality of wireless transmission link between the transceiver and the subscriber unit.

24. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 19, wherein how frequency sub-protocol data units comprising the acknowledge request indicator are transmitted is dependent upon a predetermined time duration since the transmitter received a response to an acknowledge request indicator.

25. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 19, wherein every transmitted sub-protocol data unit comprises an acknowledge request indicator after a predetermined time duration since the transmitter received a response to an acknowledge request indicator.

26. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 10, wherein the re-transmitted sub-protocol data unit are provided with a different transmission priority than sub-protocol data unit that have not yet been transmitted.

27. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 19, wherein the re-transmitted sub-protocol data unit are provided with a different transmission mode than sub-protocol data units that have not yet been transmitted.

28. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 19, wherein the re-transmitted sub-protocol data unit are transmitted over a better of multiple transmission channels of a multiple antennae transmitter.

29. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 20, wherein the transceiver aborts a transceiver buffer of sub-protocol data units if a response to an acknowledge request is not received after a given period of time.

30. The method of wirelessly transmitting and re-transmitting sub-protocol data units of claim 20, wherein the transceiver clears a present transceiver buffer when the response to the acknowledge request has been received, and all sub-protocol data units have been successfully received by the subscriber unit.